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ABSTRACT

Learned helplessness occurs when an organism learns that escape from aversive stimulation and/or the occurrence of reinforcement are independent of response (noncontingent). The learned helplessness model was applied to a classroom setting to examine its relationship to student performance. Response/outcome contingency conditions were combined with videotape lectures in which the instructors varied their expressiveness and lecture content. Subjects took an analogies test which provided contingent, noncontingent, or no feedback. They completed a teacher evaluation, an examination, and an attribution questionnaire. Results indicate that contingency training influences various classroom conditions in terms of student ratings, achievement, and attribution. Subjects without contingency training gave lower estimates of their performance and considered ability and effort to contribute less to their test results than did subjects with such training. (Author/CS)

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An Application of Learned Helplessness to the College Classroom

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An Application of Learned Helplessness to the College Classroom

Seligman's learned helplessness model (1975; 1978) has been applied to numerous settings, although not without criticism (e.g., Wortman & Dintzer, 1978). Helplessness occurs when an organism learns that escape from aversive stimulation and/or the occurrence of reinforcement are independent of responding (noncontingent). Expectancies are learned that negative/positive outcomes are uncontrollable which, in turn, interfere with learning new response/outcome contingencies.

Anecdotal evidence suggests that differential response/outcome contingency relationships may be involved in the educational system. For example, many courses are based on the premise that studying, note-taking, questioning, etc., will produce success and the absence of these activities will lead to failure. Here, the response/outcome relationship is contingent since a certain response (studying) will produce a specified outcome (success). There are, however, some courses in which the response/outcome relationship is noncontingent, that is, a certain response may or may not produce a specified outcome consistently. Consequently, studying (response) is independent of whether the student passes the course (outcome). When these behaviors appear to result in success and failure on a chance, random basis (response/outcome noncontingent), student performance may suffer. Accordingly, the student may be less likely to exhibit such behaviors in the future and/or to attempt course mastery, resulting in student apathy, failure, and drop-out.

The contingency issue may be applied to an educational context specifically in terms of student, teacher, and classroom variables. For example, contingency training history may be considered as a student variable. Within a

given classroom students may differ according to contingency training experiences. That is, some students may have a training history of response/outcome dependence in which certain behaviors produced specific outcomes, while other students may have a training history of response/outcome independence in which certain behaviors have not produced specified outcomes consistently. As a teacher variable, the contingency issue may be considered in terms of teacher classroom behaviors. Some teachers may distribute reinforcement and punishment in a random, inconsistent manner. In the former case contingent response/outcome relationships have been set up. Consequently, teachers may differ in the kinds of contingency relationships that they enforce in their classroom which, in turn, may directly affect student performance.

Such an analysis is an oversimplification since a student is likely to have both kinds of contingency experiences within and outside the educational setting and a teacher is likely to enforce both contingent and noncontingent relationships in the classroom. However, this differentiation may be useful for research purposes in much the same way that Rotter's locus of control concept differentiates individuals according to whether they perceive that the occurrence of reinforcing events is self-controlled (internals) or other-controlled (externals). Accordingly, a number of research questions can be raised regarding contingency issues in an educational setting: What is the proportion of contingent and noncontingent students in various classrooms? To what extent do other student variables relate to contingency history such as gender, SES, I.Q., etc? What extent do teacher behaviors interact with student contingency training to affect student performance? Are there teacher behaviors which remediate noncontingency training deficits?

The present experiment examined the contingency issue as a teacher-student interaction. Specifically, it investigated the interaction between student

contingency training and teacher behavior. Suppose student A has a contingent training history, leading to some degree of perceived control over the environment, while student B has a noncontingent training history, resulting in less perceived control over the environment. Differential contingency training may cause A to attempt to exert some control in a classroom setting, while B may be less likely to do so. Differences between A and B may be affected by the kinds of behaviors exhibited by teachers in the classroom. Some previous research supports this analysis. Dweck and Repucci (1973) found a contingency training by teacher characteristics interaction for both male and female elementary students. Dweck and Bush (1976) and Brown and Inouye (1978) also provide some evidence for this interaction.

Student contingency training history and teacher classroom behaviors were manipulated to determine their effects on student achievement and student attributions. Contingency training involved a brief exposure to differential response-outcome relationships, based on Seligman's triadic design composed of three experimental groups: contingent, noncontingent and control. The contingent group was presented with an experimental task in which outcome was dependent on the student's response (response/outcome noncontingent), while the noncontingent group received a similar task, but outcome was independent of the student's response (response/outcome noncontingent). The control group was included for comparison purposes and received no contingency manipulation. A fourth group was included which was required to do the contingency task but did not receive any feedback regarding response/outcome contingency (no feedback). Teacher behaviors were manipulated using videotapes based on previous research by Williams and Ware (1976) and Perry, Abrami, and Leventhal (1979). Their research suggests that instructor expressiveness and lecture content affect

student ratings and achievement under different classroom conditions. This procedure permitted precise control and manipulation of the independent variable (teacher behaviors) and accurate measurement of the dependent variables (student ratings and achievement).

Within a given classroom, therefore, the contingency training by teacher behaviors interaction can be considered to the extent that students possess different contingency training histories, and that teachers exhibit recurring, identifiable behaviors. Ideally, the teaching behaviors should be those which promote educational objectives such as student achievement, satisfaction, etc. For this reason expressiveness and lecture content were selected as the teacher behaviors. The experiment involved a contingency training (contingent, non-contingent, no feedback, control) by expressiveness (low, high) by lecture content (low, high) factorial design in which student achievement and student attributions were the dependent variables. Following contingency training students viewed a videotaped lecture, then wrote an exam and completed a questionnaire.

Method

Subjects

The subjects were 219 male and female Introductory psychology students at the University of Manitoba who volunteered for the experiment. Subjects signed up for a session and experimental conditions were randomly assigned to sessions. All students received credit toward a course requirement for research participation.

Materials

Videotapes. Four 30-minute color videotape lectures were constructed on a topic (sex-role stereotyping) that was not discussed in the students' course. Instructor expressiveness was defined in terms of physical movement,

voice inflection, eye contact, and humor, with the low and high conditions representing extremes on these dimensions. Lecture content was taken from actual lecture notes and was defined in terms of teaching points, with the low condition having half the points of the high condition. For further details see the procedures outlined in Williams and Ware (1976) and Perry, Abrami, and Leventhal (1979).

Analogies test. An analogies test was used to manipulate response/outcome contingencies. It was designed to meet two requirements: (a) a task which allowed the experimenter to manipulate contingencies and (b) a task which may be found in an actual clas room. A testing situation was used in which the test purported to measure student abilities and was group-administered. The task differed from previous contingency tasks that did not resemble a classroom test, and which were administered to each subject separately.

Multiple-choice answer sheets were constructed with four response alternatives for each of 40 analogy items. Each alternative provided feedback as to whether the choice was CORRECT or INCORRECT. The alternatives remained invisible until a special yellow ink marker was used by the subject to expose the answer. The subject selected an alternative, marked it with the special pen, and received immediate feedback as to whether the response was correct or incorrect. Two versions of the answer sheet were used to provide either contingent or noncontingent feedback. The contingent answer sheet contained response alternatives labelled correctly, and a CORRECT answer could only be obtained by selecting the right alternative. The noncontingent answer sheet contained some items which had all four alternatives designated as CORRECT, and other items having all four alternatives designated as INCORRECT.

Dependent variables. The dependent variables included six post-analogies measures and seven post-lecture measures. For the post-analogies measures, subjects responded to four attribution questions which indicated how much effort,

task difficulty, ability, and luck contributed to their analogies performance. They also compared their analogies performance to other examinations, and attempted to predict success on the post-lecture exam. For the post-lecture measures, subjects evaluated the instructor on a teaching effectiveness measure similar to that employed by Sullivan and Skanes (1974); an achievement test based on lecture content: and five attribution items to determine how much effort, task difficulty, ability, luck, and teacher contributed to their exam performance.

Procedure

The experiment consisted of two parts, an analogies test and a lecture presentation. The contingent, noncontingent and no feedback subjects participated in both parts, while control subjects participated only in the lecture part. A subject's contingency condition was determined by the answer sheet that was received in the experimental session. Subjects taking the analogies test were given 20 minutes after which they computed their scores and completed the post-analogies dependent measures questionnaire. Each subject, including controls, then viewed one of the four videotaped lectures. Following the lecture, the subjects took an exam, evaluated the instructor, and completed the attribution items.

Results

Post-Analogies Measures

A multivariate analysis of variance involving the six dependent measures indicated a significant contingency effect, $F(16,290)=3.28$, $p < .0001$. Significant results were found for the following dependent variables: estimated performance, anticipated success, ability, and effort. Noncontingent subjects compared to contingent and no feedback subjects: estimated their performance more poorly; predicted their success on the exam would be poorer, and considered ability and effort to contribute less on their analogies results.

These results suggest that the contingency manipulation was effective.

Post-Lecture Measures

Two contingency (contingent, noncontingent, no feedback, control) by expressiveness (low, high) by lecture content (low, high) multivariate analyses of variance were performed on the seven post-lecture measures. The first MANOVA, involving the student ratings measure and achievement test, indicated significant effects for contingency, $F(2,202)=2.54$, $p < .02$, expressiveness, $F(2,202)=136.01$, $p < .001$ content, $F(2,202)=49.88$, $p < .001$, and expressiveness by content, $F(2,202)=10.23$, $p < .001$. Significant contingency main effects occurred for both student ratings and achievement ($ps < .001$) in that noncontingent subjects tended to rate the instructor less favourably and score lower than the other subjects. A second MANOVA, involving the five attribution items, indicated significant results for contingency, $F(5,199)=1.70$, $p < .05$, expressiveness, $F(5,199)=5.90$, $p < .001$, content, $F(5,199)=4.77$, $p < .001$, and expressiveness by content, $F(5,199)=2.56$, $p < .03$. Significant contingency main effects occurred for task diffidulty ($p < .01$) suggesting noncontingent subjects viewed the achievement task as more difficult than the other subjects.

Discussion

The present experiment investigated the response/outcome contingency issue in a simulated college classroom. The results suggest that the analogies test can be a useful procedure for manipulating contingency relationships. They also suggest that noncontingent training can have subsequent effects in various classroom conditions. Noncontingent training appears to affect a variety of student outcome measures including student ratings, student achievement, and some attribution items.

The experiment represents a major departure from previous learned helplessness research in the use of simulated classroom conditions. First, college

students represented a different subject population than elementary school children. Second, the experimental task used to manipulate response-outcome contingencies was designed to approximate more closely testing conditions in the natural classroom. The multiple-choice format and group administration represent significant departures from single-subject administered anagram tasks. Third, the videotaped lecture involved a professor presenting from actual lecture notes. The expressiveness and content manipulations ensured that at least two teacher behaviors were depicted in the classroom setting. And finally, the dependent variables represent measures that are used in the college classroom.

The major disadvantage of this research design is its lack of external validity to classroom settings at all levels of the educational system. Variables which may threaten the generalizability of results from this paradigm have been discussed elsewhere (e.g., Perry, Abrami, & Leventhal, 1979). The primary purpose was to determine whether differential contingency training affects student performance under simulated classroom conditions. Excluded from the study were a number of related issues, such as long-term exposure to noncontingent conditions.

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